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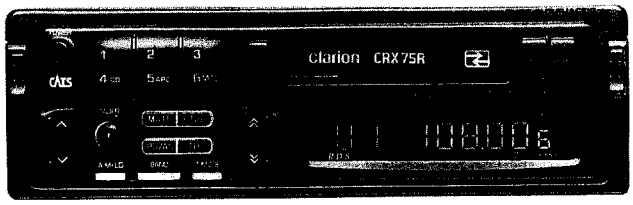
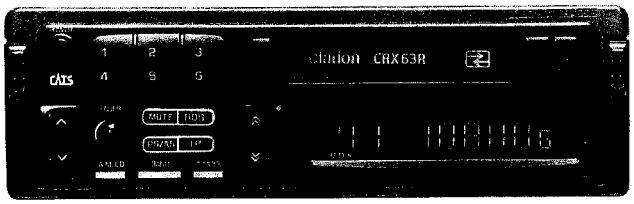
clarion Service Manual

Published by Service Engineering Section



CRX75R



CRX63R

RDS/FM•MPX/MW/LW RADIO CASSETTE COMBINATION

Model **CRX75R**(PE-9639A)
CRX63R(PE-9640A)

CRX75R (PE-9639A)	CRX63R (PE-9640A)
Tape Mechanism: 930-0702-85	Tape Mechanism: 930-0700-85
Dual Colour Selector	
Dolby B NR	
APC	
MTL	

■SPECIFICATIONS:

Radio section

Circuit system: Superheterodyne
Tuning system: Electronic tuning
Receiving frequency: LW 153kHz to 279kHz
MW 531kHz to 1,602kHz
UKW(FM)
87.5MHz to 108MHz
Intermediate frequency:
LW, MW 450kHz
UKW(FM) 10.7MHz

Tape section

Reproduction system: Auto reversing
4 track, 2 channel stereo cassette tape playback
(Monaural also capable)
Tape speed: 4.76cm/sec. (1-7/8 ips)

Composite

Load impedance: 4Ω×4
Power output: 15W×2/7W×4
Power supply voltage:
DC 14.0V (10.8V to 15.6V)
Negative ground

Power consumption: Less than 7A
(at max. output)
Dimensions: Width 178mm
Height 50mm
Depth 155.6mm
Weight: 1.8kg

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

■COMPONENTS:

● CRX75R, CRX63R

Main unit		1
Mounting bracket	300-6954-00	1
Parts bag	921-8735-01	1
Spacer	345-3653-01	1
Tap screw	700-5016-80	1
Screw	716-0726-01	1
Nut	722-0314-00	1
Plate nut	725-0216-00	1
Sticker	291-0041-03	1

■FEATURES:

- ■ RDS (Radio Data System): PI (Programme Identification), AF (Alternative Frequency), TP (Traffic Programme Identification), TA (Traffic Announcement), PS (Programme Service name), REG (Regional Selection)
- ■ Electronic Quartz-Locked PLL Tuning
- ■ One-touch Memory (12 FM, 6 MW/LW)
- ■ Tuning Modes: Manual Tuning and Seek Tuning modes
- ■ Preset Scan (PS) & Auto Store (AS) on FM/MW/LW
- ■ DX/Local Switch
- ■ SASC (Signal Actuated Stereo Control) & CZ1 Noise Canceller
- ■ Adjustable DK level
- ■ Hard Permalloy Head
- ■ Dual Azimuth Adjustment Mechanism
- ■ Tape Equalization Selector (MTL) : CRX75R
- ■ APC (Automatic Programme Control) : CRX75R
- ■ Dolby® B Noise Reduction : CRX75R
- ■ Dual Fader Controls (Pre/Speaker), BASS/TREBLE, MUTING
- ■ Loudness Switch
- ■ Maximum Power Output: 15 W×2/7 W×4
- ■ 2-Channel RCA Line Level Output
- ■ Night Illumination with Dual Colour Selector (Amber/Green) : CRX75R
- ■ CATSIII (Computer Anti-Theft System)
- ■ Liquid Crystal Display
- ■ Triggered Phone Mute
- ■ DIN Chassis with Slide Out Bracket

■CATS III (Computer Anti-Theft System III):

Operation
The CATS III system is not active upon purchase of the unit.

[1] Inputting Your CATS Code
1. Turn on the POWER switch while keeping the T.MODE switch pressed. ("CODE IN" starts flashing.)
2. Using Preset switches 1 to 6, input any 4-digit number. ("CODE IN" starts flashing again.)
3. Input the same 4-digit number once again. ("CATS ON" appears.) Code input is now complete.

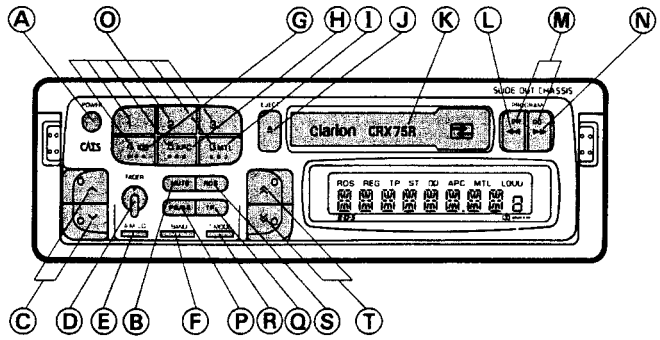
Note: If you make a mistake, turn the POWER switch off immediately and start over from step 1.

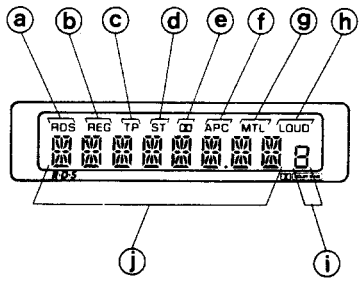
[2] Releasing the CATS System (when re-inserting the car stereo)
Turn the POWER switch on and input your CATS code.

[3] Clearing and Changing the CATS Code
1. Turn on the POWER switch while keeping the T.MODE switch pressed. ("CODE IN" starts flashing.)
2. Input your CATS code. ("CODE CLR" is displayed.) The CATS III system is now turned off.

Notes:
1. If you input the wrong code number when attempting to turn off the CATS system or clear the CATS code, "SECURITY" is displayed for several seconds, indicating that operation is not possible. The time for which the unit is inoperable increases the more times an incorrect code number is input.
2. If you make a mistake while inputting the code, turn the POWER switch off and start over from the beginning.

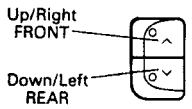
■OPERATION:





● General Section

*** Volume, Balance, Bass, Treble and Fader (Pre-fader) Control Buttons ☛Ⓒ**
Select the desired audio mode with the A.M/LD switch, then use these buttons to adjust.
* Fader control button used for an externally connected amplifier.



*** FADER (Speaker Fader) Control Knob ☛Ⓓ**
** Fader control knob for the built-in amplifier.
There is no need to adjust this knob when using with two speakers.

*** Audio Mode Switch (A.M/LD) – Press for under 2 seconds: ☛Ⓔ**
Use this switch to select the Volume, Bass, Treble, Balance or Pre-fader audio mode, and then Adjust with the Control buttons. After adjustment, the mode returns to the Volume mode in approximately 5 seconds.

*** Loudness Switch (A.M/LD) – Press for over 2 seconds: ☛Ⓔ**

*** Illumination Selector Switch (BAND) – Press for over 2 seconds: ☛Ⓕ : CRX75R**
Amber ↔ Green

● Listening to the Radio

*** Band Switch (BAND) – Press for under 2 seconds: ☛Ⓕ**
(Illumination Selector Switch) (: CRX75R)
FM1 → FM2 → MW or LW → FM1 ...

*** Tuning Mode Switch (T.MODE) and DX/LO Switch ☛Ⓑ**
1. Use the T.MODE switch to switch between the manual and seek tuning modes. (After Manual Tuning, the mode automatically returns to the Seek Tuning mode in approximately 5 seconds.)
2. When pressed for over 2 seconds, the Seek Tuning mode switches between DX and LO (local).
Use the local seek mode to tune in local stations in the area you are currently in.
Use the DX seek mode to tune in all stations, both strong and weak ones, which can be received in your location.

*** Preset Scan/Auto Store Switch (PS/AS) ☛Ⓟ**
1. **Preset Scan**
Press the PS/AS switch for less than 2 seconds to tune in all receivable stations, preset on the Preset buttons, for 5 seconds each.
To stop scanning, press the PS/AS switch again.
2. **Auto Store**
When the PS/AS switch is pressed for over 2 seconds, the six stations with the strongest signals on the selected band are stored on the Preset buttons.
Once 6 stations are stored, or if fewer than 6 stations are found after the band has been scanned twice, the auto store function stops, and the station which was preset first is tuned in.
The preset scan and auto store functions only work for RDS stations when the RDS switch is on. When the TP switch is on, they only work for traffic information stations.

■ Using the Radio Data System (RDS)

✱ RDS Switch ☛Ⓢ

1. When the RDS switch is turned on, the RDS indicator lights.
2. When an RDS station is tuned in, the name of the station is displayed, and the radio frequency of the transmitter offering the best reception conditions of that station is tuned in.
3. If an emergency broadcast (a broadcast emitting a PTY [Programme Type] code) is received while an RDS station is tuned in, "ALARM" is displayed, the volume is automatically increased to a preset level in case the volume at the time is lower than the preset level (no adjustment is made in case the volume level is higher than the preset level), and the emergency message is heard.
4. If, while an RDS station is tuned in, the reception becomes poor and there are no other transmitters broadcasting the same programme, "RDS" starts flashing. "RDS" stops flashing if the reception improves.
5. If one of the Tuning buttons (⩒ or ⩓) is pressed when the RDS switch is on, the unit only searches for stations broadcasting RDS signals.

✱ Same Programme Search (PI: Programme Identification)
If a Preset button on which an RDS station is stored is pressed, but that station cannot be received (the RDS indicator flashes), press the same Preset button once again. "SEARCH" is displayed, and a station with the same PI code, i.e. the same programme content, is searched for.

✱ Regional Programme Mode (REG) ☛Ⓢ
The Regional Programme mode is turned on and off each time the RDS switch is pressed for over 2 seconds, while RDS is turned on.
The REG switch affects reception of regional broadcasts only.
The purpose of the REG switch is as follows:
REG on (REG lit): The radio will track local (regional) radio broadcasts in the local area only.
REG off (REG not lit): If you are tuned into a regional radio broadcast in one area, when entering another area the radio will tune in a local, regional broadcast for that area.

Mode	Indicator	Operation
REG ON	REG	Local, regional broadcast followed
REG OFF	—	Shifts to another regional broadcast when entering a new area

※ Turn the REG function on if the radio changes to a broadcast station with a different programme.

✱ Traffic Programme Switch (TP) ☛Ⓠ
Turn on the TP switch to tune in Traffic Programme broadcasts only. If the TP switch is turned on when a Traffic Programme station is not being received TP seek starts and a TP station is tuned in.
When traffic information is broadcast, "TRA INFO" appears on the display, and the volume is automatically adjusted to the preset level.
Turn off the TP switch if there are no traffic programme broadcasts in the area.

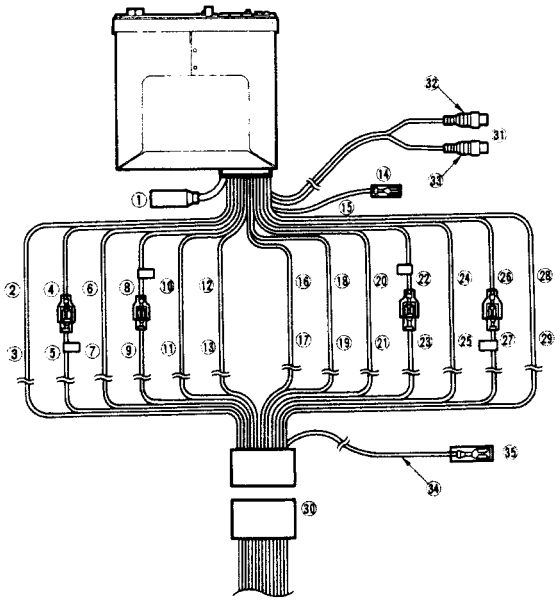
Notes:

1. Even when listening to a tape, the unit automatically switches to the radio if an emergency broadcast or traffic information is received. The radio's operating switches do not function in such cases.
2. The unit returns to tape playback if the RDS or TP switch is turned off while an emergency broadcast or traffic information is being broadcast.
3. Pressing one of the Tuning buttons (⩒ or ⩓) while the TP switch is on, the unit only searches for stations broadcasting TP signals.
4. When the RDS switch is turned on while the TP indicator is lit, the unit continues to search for TP stations, even in the tape mode.

✱ Presetting the Volume Level for Traffic Information Announcements
When the TP switch is turned on and traffic information announcements are received, the volume is automatically adjusted to a preset level.
Preset the volume level as follows:
Press the TP switch for over 2 seconds (until "V_ADJ10" appears on the display). Use the Control buttons (∧ and ∨) to adjust the volume level. Press the TP switch lightly to store the volume level in the memory.

■WIRE CONNECTION:

● 4 speaker system

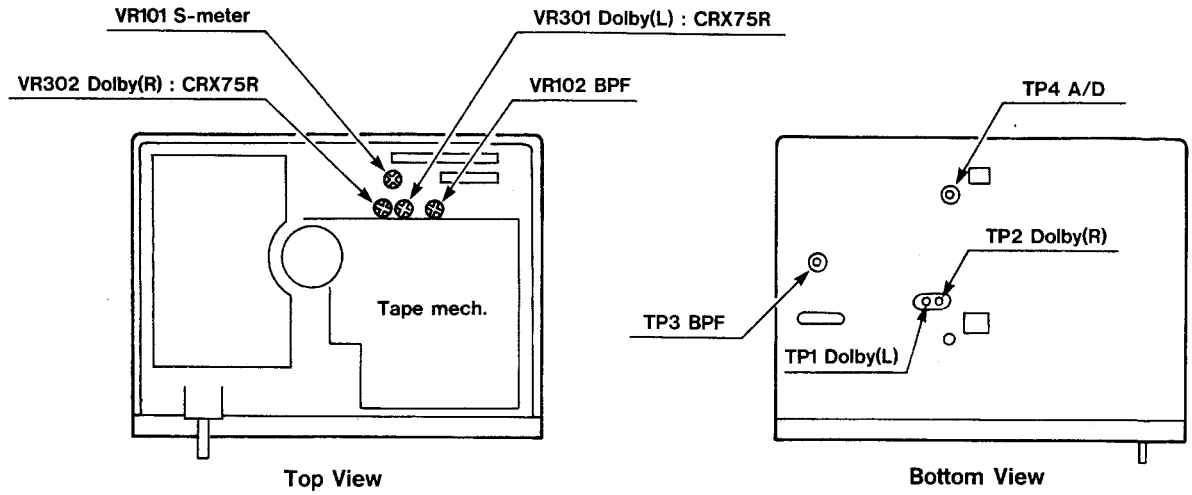


① ANTENNA
② LEFT FRONT ⊕
③ WHITE
④ LEFT FRONT ⊖
⑤ WHITE/BLACK
⑥ LEFT REAR ⊕
⑦ PURPLE
⑧ LEFT REAR ⊖
⑨ GREEN/BLACK
⑩ AUTO ANT.
⑪ BLUE/WHITE
⑫ ILLUMI
⑬ ORANGE/WHITE
⑭ PHONE MUTE
⑮ BROWN
⑯ Permanent
⑰ YELLOW
⑱ ACC +12 V
⑲ RED
⑳ GROUND
㉑ BLACK
㉒ RIGHT FRONT ⊖
㉓ GREY/BLACK
㉔ RIGHT REAR ⊕
㉕ GREEN
㉖ RIGHT REAR ⊖
㉗ PURPLE/BLACK
㉘ RIGHT FRONT ⊕
㉙ GREY
㉚ Interface connector for each car application
㉛ RCA LINE OUTPUT
For connection of external power amplifier.
㉜ RED (RIGHT)
㉝ WHITE (LEFT)
㉞ AMP CONTROL LEAD (BLUE/WHITE WIRE)

■ADJUSTMENT:

Adjustment item	Adjustment point	Procedure
Dolby NR (CRX75R)	VR301 (L) VR302 (R)	1. Insert a Dolby level test tape (400Hz-200nWb/m), connect the milli-voltmeter to TP1 (L) and TP2 (R), and adjust VR301 (L) and VR302 (R) to obtain an output of 245mV±1dB.
S-meter	VR101	1. Connect the digital volt-meter to TP4. 2. Input the 98.1MHz/65dB (400Hz/30% MOD) and adjust the level to 4.5±0.1V by VR101.
BPF	VR102	1. Input the 98.1MHz/65dB (5.3% SK MOD). 2. Connect the oscilloscope to TP3, and adjust VR102 so that the waveform of TP3 is maximum.

●ADJUSTMENT POINT

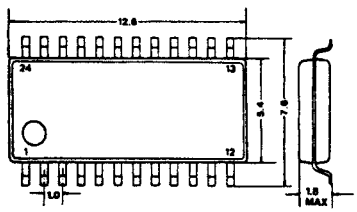


■EXPLANATION OF IC's:

※IC's other than explained below are described in Service Manual 「EXPLANATION OF IC's」 Vol.2~Vol.3.

■LA2230M 051-1625-00 RDS Decoder

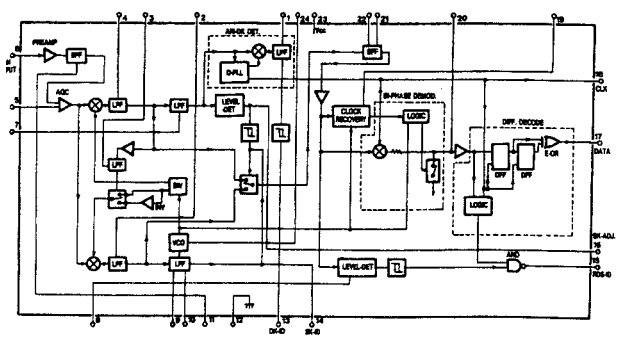
Outward Form



Function

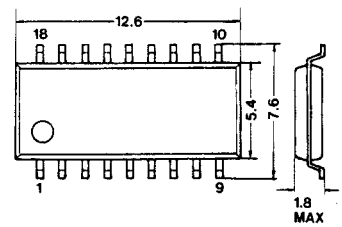
(1) DSB demodulation.
(2) Sub-carrier wave regeneration.
(3) Bit rate clock regeneration.
(4) Data differential decoding.
(5) ARI-SK discrimination.
(6) ARI-DK discrimination.
(7) RDS indicator driving.
(8) ARI indicator driving.
(9) 57kHz band pass filter.

Block Diagram

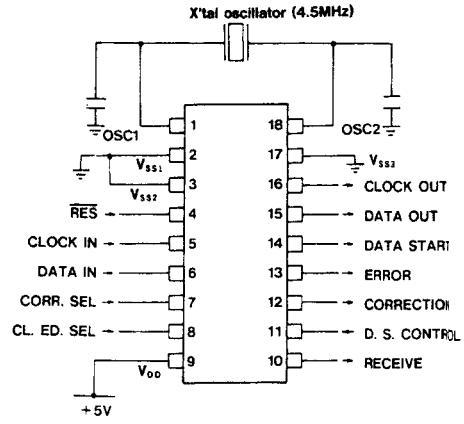


■LC7073M 051-1150-20 Sync/Error correction LSI for RDS

I. **Outward Form**



II. **Terminal Connection**



III. Terminal Connection Table

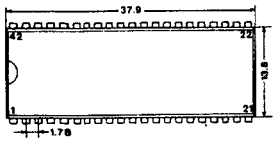
Pin No.	Symbol	Function
1 18	OSC 1 OSC 2	Connection terminal for crystal oscillator. Allows connection of 4.5MHz crystal.
2 3 17	V_{SS1} V_{SS2} V_{SS3}	Ground.
4	$\overline{RES}$	Reset terminal.
5	CLOCK IN	RDS recovery clock input.
6	DATA IN	RDS recovery data input.
7	CORR SEL	Correction or non correction input for input signal.
8	CL. ED. SEL	Serial output clock polarity setting input.
9	V_{DD}	Power supply terminal (5V).
10	RECEIVE	After finishing a synchronous detection, while serial output is made, L level output is applied. In other cases, H level output.
11	D. S. CONTROL	Data start signal control input.
12	CORRECTION	Correction output terminal.
13	ERROR	Error output terminal.
14	DATA START	Block data start signal output.
15	DATA OUT	Data output for serial output.
16	CLOCK OUT	Clock output for serial output.

■LC7537N 051-0866-00 / LC7537AN 051-0866-05 Electronic Volume

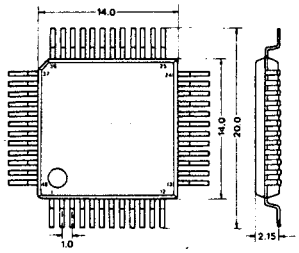
Outline

This IC is an electronic volume which can electronically controls functions, such as volume, balance, loudness, fader, bass and treble, using a few number of externally attached parts.

Outward Form



LC7537N

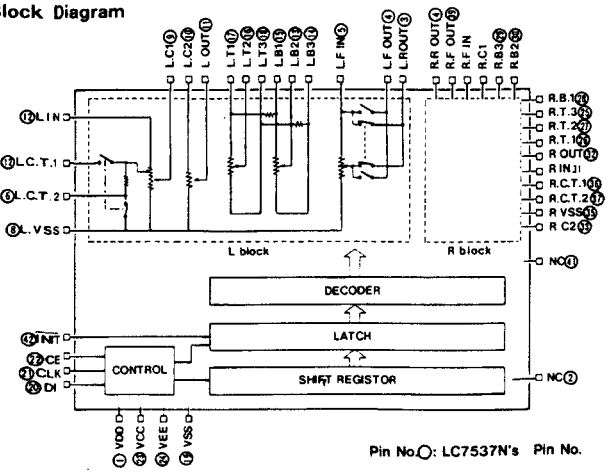


LC7537AN

Features

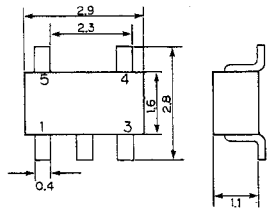
* It can control the following functions by 3-line type serial data of CE, DI and CLK. Since serial input is of 5V system, a general purpose microcomputer can be used.
  - ① Volume: 81 positions of 0dB through 79dB (1dB step) and −∞. Provides a balance function by separately controlling L/R.
  - ② Loudness: Since there is a center tap at a −20dB position of the ladder resistor of the volume, loudness operation is available by means of an externally attached part for CR.
  - ③ Fader: Provides a fader function by varying only rear output or front output over 16 positions {0dB through −20dB (at 2dB step), −20dB through 45dB (at 5dB step), −60dB and −∞)}.
  - ④ Bass/treble: Controls bass and treble at 15 positions by 2dB step, forming an NF type tone control circuit (Baxandall type) through externally attached CR.
* An operationg voltage widely ranges from +4.5V to 15V because of its C-MOS structure, and either unilateral power supply can be used.

Block Diagram

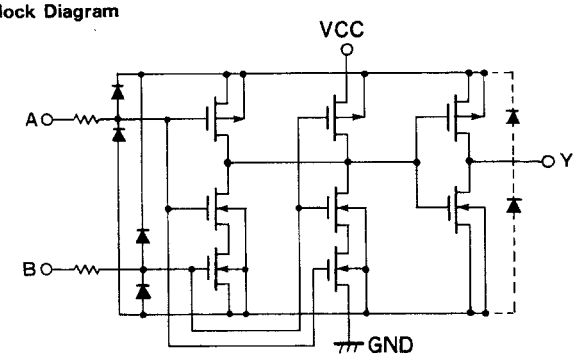


■SC7S08F 051-1738-35 / TC7S08F 051-1738-05 2 Input And Gate

Outward Form

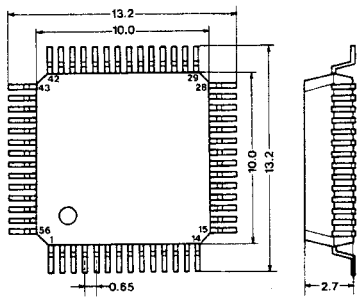


Block Diagram



■μPD7225GB-3B7 051-1151-10 LCD Controller/Driver

Outward Form

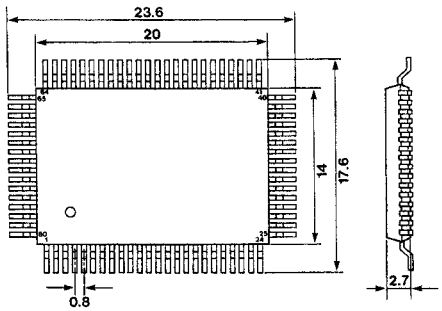


Terminal Connection Table

Pin No.	Symbol	Function
1 12	S20 S31	Segment output.
13	CL1	Resistor connecting terminal for clock oscillation.
14	I.C.	Internally connected.
15	CL2	Resistor connecting terminal for clock oscillation.
16	$\overline{SYNC}$	Synchronous signal input/output.
17 18 19	V_{LC1} V_{LC2} V_{LC3}	LCD driving power supply terminal.
20	V_{SS}	Ground terminal.
21	V_{DD}	Device power terminals.
22	$\overline{SCK}$	Serial clock input.
23	SI	Serial data input.
24	$\overline{CS}$	Chip select input.
25	$\overline{BUSY}$	Busy output.
26	C/$\overline{D}$	COMMAND/DATA selecting input.
27	$\overline{RESET}$	Reset input.
28	I.C.	Internally connected.
29	N.C.	Non connection.
30 33	COM0 COM3	Common output.
34 41	S0 S7	Segment output.
42	I.C.	Internally connected.
43 48	S8 S13	Segment output.
49	V_{DD}	Device power terminal.
50 55	S14 S19	Segment output.
56	I.C.	Internally connected.

■μPD17006GF-523-3B9 051-1741-00
Tuner and Cassette Mechanism Controller

I. Outward Form



II. Terminal Description

No.	Pin No.	I/O	Function
1	$\overline{\text{ST}}$-IND	I	Lights up LCD "ST" while receiving FM station at low level.
2	$\overline{\text{RDS-IND}}$	I	RDS station signal from RDS decoder IC.
3	$\overline{\text{SK}}$-IND	I	SK (traffic information station) signal from RDS decoder IC.
4			
4	$\overline{\text{DK}}$-IND	I	DK (announce) signal from RDS decoder IC.
5	$\overline{\text{CW}}$	I	While in automatic follow-up operation, with the assigned time of this port at low, judges a sound break.
6	VSM	I	Used for signal (field strength) comparison at the time of follow-up of one program.
7	FM IF	I	Input terminal for counting IF frequencies of FM.
8	AM IF	I	Input terminal for counting IF frequencies of MW/LW.
9	$\overline{\text{DATA-START}}$	I	Data start signal from synchronous error correction microcomputer.
10	RDS-DATA	I	RDS data synchronizing with RDS-CLK from synchronous error correction microcomputer.
11	RDS-CLK	I	Clock from synchronous error correction microcomputer.
12	$\overline{\text{RDS-RES}}$	O	Reset signal to synchronous error correction microcomputer.
13	RDS-MUTE	O	With FM power ON, Hi output for 1 sec. MW/LW LOW
14	VDD_1	–	Power supply terminal of device.
15	AM-OSC	I	MW/LW band VCO (receiving frequency+10.71MHz) input terminal.
16	FM-OSC	I	FM band VCO (receiving frequency+10.7MHz) input terminal.
17	GND_1	–	GND terminal of device.
18	EO	O	PLL error output terminal.
19	EO-FM		
20	EO-AM		
21	LW/$\overline{\text{MW-FM}}$	O	HI output only on LW.
22	REM	O	System power control terminal.
23	VOL-CS	O	Electronic volume control terminal.
24	$\overline{\text{MUTE}}$	O	System mute control terminal. (Linked with electronic volume.)
25	$\overline{\text{AM}}$ +B	O	Power supply control terminal of MW/LW band.
26	FM +B	O	Power supply control terminal of FM band. (Active-Hi)
27	LFP CONT	O	PLL low-pass filter control terminal.
28	BEEP	O	Pulse output for beep sound.
29	B.U DET	I	Detects that system backup power source has dropped.
30	VDD_2	–	Device power supply terminal.
31	CE	–	Chip enable terminal.
32	MOTOR	O	Cassette deck power supply control, Refer to R/T, MOTOR port.
33	GND_2	–	Device GND terminal.
34	Xout	O	Oscillator terminal. 4.5MHz
35	Xin	I	
36	NC	–	Unused.
37	ACC-PORT	I	Car accessory power supply detection port.
38	VOL L	I	Rotary volume input: counterclockwise rotation.
39	VOL R	I	Rotary volume input: clockwise rotation.
40		I	Unused.
41	KO 3	O	KEY source output.
42	KO 2		
43	KO 1		
44	KO 0		
45	KI 7	I	KEY source input.
46	KI 6		
47	KI 5		
48	KI 4		
49	KI 3		
50	KI 2		
51	KI 1		
52	KI 0		
53	ILLUMI	O	Repeats High ↔ Low with BAND key pushed by 2s when commercial mode 20B spec. has been selected with diode SW. INISAL LOW Outputs Hi even with Acc Off because of illumi-line being present.
54	PHONE-INT	I	Mute output while this port stays at HI.
55	LCD-BUSY	I	Busy signal from LCD driver.
56	SI	I	LCD driver, Serial data line to electronic volume.
57	SO	O	
58	SCK	O	
59	NC	–	Unused.
60	NC		
61	GND_3	–	Device GND terminal.
62	LCD CS1	O	Select output of LCD driver.
63	NC	–	Unused.
64	VDD_3	–	Device power supply terminal.
65	LCD RES	O	Control terminal of LCD driver.
66	LCD C/D	O	
67	LCD CS2	O	2nd select output for 2 LCD drivers (1/2 DUTY).
68	NC	–	Unused.
69	R/T	O	Changeover output of LOW radio mode and HI tape mode.
70	DOLBY -ON/OFF	O	Repeats High ↔ Low every time SW is pressed in TAPE mode.
71	APC ON/OFF	O	Sets this port to HI while in FF/REW with TAPE mode APC ON.
72	MTL-ON/OFF	O	Repeats High ↔ Low every time SW is pressed in TAPE mode.
73	FF/REW	I	With radio monitor provided, monitors radio broadcasting while this port is Low in PACK-IN (TAPE mode).
74	PACK-IN	I	TAPE mode with LOW cassette pack provided. Radio mode with HI cassette pack not provided. Refer to R/T port timing.
75	FOW/REV	I	Direction of cassette tape. With this port changed in TAPE mode, performs MUTE output.
76	FM SD	I	Auto-tuning (SEEK, AS, PS). Station detection at the time of follow-up of one program (threshold level 2.5V).
77	DX/LO	O	SEEK mode. Used in AS (Auto store) mode. Held at low, in general.
78	RDS-DX/LO	O	SEEK mode for FM. Used at the time of automatic follow-up of AS (Auto store) mode. Held at low, in general.
79	IF-REQ	O	Outputs HI when IF count is needed at the time of SEEK, AS or PS. Held at low, in general.
80	IF-MUTE	O	Outputs this port in automatic follow-up (RDS-01 operation).

III. **Key Matrix**

§ 1. Key Matrix Table

IN / OUT	KI0 Pin 52	KI1 Pin 51	KI2 Pin 50	KI3 Pin 49	KI4 Pin 48	KI5 Pin 47	KI6 Pin 46	KI7 Pin 45
KO0 Pin 44	OPTION /OEM	CW DET.	LCD	AUDIO UP	A-MODE (LOUD)	BAND	T-MODE (DX/LO)	
KO1 Pin 43	20B/20D / DOLBY	RADIO MONITOR	E-VOL FADER	AUDIO DOWN	PSS (AUTO-STOR)	RDS	TUNE UP	SEEK UP
KO2 Pin 42	/ APC	LOUD		M1	M2	TP (VOL-AJUST)	TUNE DOWN	SEEK DOWN
KO3 Pin 41	/ MTL	T-MODE	MUTE	M3	M4 / DOLBY	M5 / APC	M6 / MTL	LOUD

at OPTION → : Diode switch (at OEM)

: Momentary switch

Note : This microcomputer set is not always equipped with all of these keys.

§ 2. Diode Switch

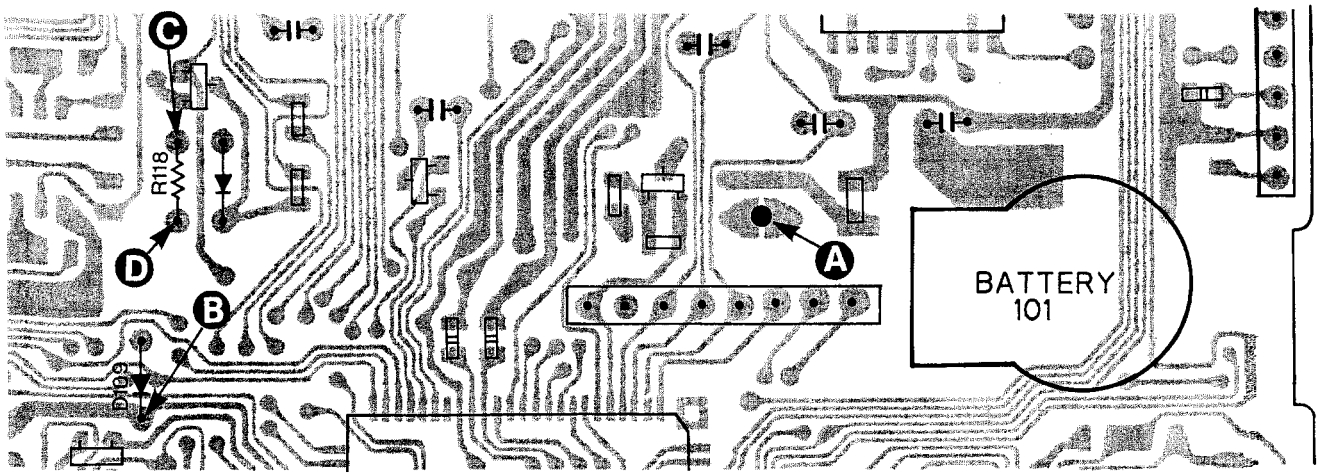
In the table below, "0" means the diode switch OFF (Open) and "1" does the diode switch is ON (Short).

Switch name	Function
OPTION /OEM	Set OPTION or OEM. 0 : OPTION 1 : OEM
20B/20D	Set some function. 0 : W-ILL, DOLBY, MTL, APC are not used. 1 : W-ILL, DOLBY, MTL, APC are used.
DOLBY	Set DOLBY. 0 : DOLBY is not used. 1 : DOLBY is used.
MTL	Set MTL. 0 : MTL is not used. 1 : MTL is used.
APC	Set APC. 0 : APC is not used. 1 : APC is used.
CW DET.	Set CW (Carrier Wave) detecting method. 0 : This SW for confirming AF list, regardless of audio signal existence. 1 : This SW for confirming AF list, when audio signal is interrupted.
RADIO MONITOR	Set RADIO MONITOR. 0 : RADIO MONITOR is not used. 1 : RADIO MONITOR is used.
LOUD	Set LOUD. 0 : LOUD is not used. 1 : LOUD is used.
T-MODE	Set T-MODE. 0 : T-MODE is used. 1 : T-MODE is not used.
LCD	Set LCD duty. 0 : 1/4 duty. 1 : 1/2 duty.
E-VOL FADER	Set FADER mode. 0 : FADER mode is used at A-MODE select. 1 : FADER mode is not used at A-MODE select.

■REPLACE A DEAD BATTERY

〔PROCEDURE〕

1. Remove a main PWB from a unit.
2. Disconnect a bridge pattern, which is placed point Ⓐ, with solder-iron.
3. Replace a battery to a bland new battery.
4. Install the main PWB in the lower case.
5. Short point Ⓑ to GND line for 2 seconds to initialize.
6. Connect a power cable (back up line) to the main unit.
   Note: At the moment, a power supply should not be turning on.
7. Turn power supply on.
   Note: If the above procedure is done conversely, moter antenna should not be operated because Fuse R (1.8Ω) will be snapped.
8. Check a voltage of point Ⓑ should be less than 5V with a volt meter.
9. Short a point Ⓐ between bridge pattern with solder-iron.
   Note: Do not short between bridge pattern and GND line.
10. Turn power supply off.
11. Disconnect a power cable from a unit.
12. Check a voltage between point Ⓒ and Ⓓ is 5mV or less with volt meter. The current of battery is 7μA or less. (cf. pic. 1-1)



pic. 1-1

■PARTS LIST:

◎Electrical section

Note) Several different parts listed in the column are alternative parts. One of those parts is used in the set.
● : CRX75R ○ : CRX63R

REF.NO.	PART NO.	DESCRIPTION	Q'TY
D403	001-0188-01	Diode 1S1885A	1
101～104 107,108,201 D202,401,402 501～506 508～510	001-0330-00	Diode 1SS119	19
	(001-0352-00)	Diode (1SS176)	
D109	001-0361-10	Diode 1SS198	1
D512	001-0377-38	Diode MA4068M	1
D507	001-0377-48	Diode MA4091H	1
	(001-0376-49)	Diode (MTZ10JA)	
	(001-0400-48)	Diode (HZS9.1JB3)	
D511	001-0423-24	Diode MA4091	1
	(001-0421-24)	Diode (MTZJ9.1)	
	(001-0425-24)	Diode (HZS9.1J)	
D●105,106 513～516	001-0466-00	Diode S5688B	6
	(001-0499-00)	Diode (ERA15-01)	
	(001-0626-00)	Diode (1A2)	
L503	009-0470-04	Choke	1
L502	009-0633-04	Choke	1
L201	010-2003-04	Coil AM-COIL	1
L203	010-2199-00	Coil 0.1μH	1
L202	010-2199-16	Coil 2.2μH	1
L501	010-2199-32	Coil 47μH	1
VR101,●301 ●302	012-4431-06	Variable resistor 10KΩ	3
VR101	012-4431-13	Variable resistor 470KΩ	1
R529	032-0108-00	Flame proof resistor 1.8Ω	1
C440	042-0348-00	Electrolytic capacitor 16V2200μF	1
C225	042-0443-09	Alumi-electrolytic capacitor 50V0.47μF	1
C313,314	042-0443-16	Alumi-electrolytic capacitor 50V1μF	2
C●323,●324	042-0443-17	Alumi-electrolytic capacitor 50V0.68μF	2
C420,421	042-0443-18	Alumi-electrolytic capacitor 50V0.33μF	2
CCT102	050-0088-03	Component circuit 10KΩx7	2
IC○304	051-0267-35	IC MC14066BF	1
IC301	051-0301-01	IC μPC1228H	1
IC○405	051-0350-55	IC NJM4558M	1
IC402～404	051-0556-01	IC NJM2058M	3
IC●303	051-0561-01	IC AN6263N	1
IC401	051-0866-06	IC LC7537AN-HT	1
IC502	051-0869-05	IC MB3771	1
IC402	051-0958-51	IC MC13306T3S	1
	(051-0958-01)	IC (TA8205AH)	
IC●302	051-1038-01	IC CXA1102	1
IC103	051-1150-20	IC LC7073	1
IC101	051-1151-10	IC μPD7225GB	1
IC102	051-1375-65	IC	1
IC104	051-1625-00	IC LA2230M	1
IC501	051-1738-35	IC SC7S08F	1
	(051-1738-05)	IC (TC7S08F)	
IC503	051-1740-05	IC S80741	1
IC105	051-1741-00	IC μPD17006GF-523-3B9	1
X102	060-0115-04	Ceramic resonator	1
SUP201	060-0122-10	Surge protector	1
X103	060-0146-50	Ceramic resonator 4.0MRDS	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
X101	061-1053-00	Crystal 4.5MHz	1
BATT 101	088-0034-00	Battery	1
Q501,502,504	100-1162-00	Transistor 2SA1162-O,Y,G	3
Q302	100-1297-00	Transistor 2SA1297-Y,GR	1
Q507,508	100-1298-00	Transistor 2SA1298-O,Y	2
Q514	101-1398-00	Transistor 2SB1398-P,Q	1
Q104	102-2458-00	Transistor 2SC2458-O,Y,GR,BL	1
	(102-2758-00)	Transistor (2SC2778-B,C)	
203,●303 Q●304,○363 513	102-2712-00	Transistor 2SC2712-O,Y,G,L	5
	(102-2412-00)	Transistor (2SC2412K-Q,R,S)	
Q207,208	102-2712-51	Transistor 2SC2712-G,L	2
Q210,211	102-3624-00	Transistor 2SC3624A	2
Q204 401～404	103-1306-00	Transistor 2SD1306-D,E	5
	(103-1328-00)	Transistor (2SD1328-R,S,T)	
Q●101,●102	103-1781-00	Transistor 2SD1781K-P,Q,R	2
Q512	103-1858-00	Transistor 2SD1858-P,Q,R	1
Q511	103-2118-00	Transistor 2SD2118F5-Q,R,S	1
Q206	108-0211-00	FET 2SK211-O,Y,GR	1
Q509	108-0363-00	FET 2SK363-GR,BL,V	1
Q506	125-0002-03	Transistor RN2403	1
	(125-0014-03)	Transistor (DTA124EK)	
Q301,510	125-2004-02	Transistor RN1402	2
	(125-2020-02)	Transistor (DTC114EK)	
●103,201 Q202,205,209 ○364,503 505	125-2004-03	Transistor RN1403	8
	(125-2020-03)	Transistor (DTC124EK)	
C431,432	160-5612-05	Ceramic capacitor 560PF HD	2
C511,512	172-1041-11	Polyester capacitor 0.1μF SS	2
C228	172-6831-11	Polyester capacitor 0.068μF SS	1
C301,302	173-1022-11	Polyester capacitor 1000PF S	2
C441	173-1042-10	Polyester capacitor 0.1μF S	1
C436～439	173-1542-10	Polyester capacitor 0.15μF S	4
C107～109 110,217	176-1011-00	Ceramic chip capacitor 100PF TC,S	5
C116,212,213	176-1811-00	Ceramic chip capacitor 180PF TC,S	3
C105,106	176-2201-00	Ceramic chip capacitor 22PF TC,S	2
C404	176-2711-00	Ceramic chip capacitor 270PF CH TC,S	1
C222	176-4701-00	Ceramic chip capacitor 47PF TC,S	1
C113,215,216 226,502	178-1022-05	Ceramic chip capacitor 1000PF HD,S	5
101,102,104 111,114,202 205,207,208 C209,212,214 227,309 ●316,●317 505	178-1032-05	Ceramic chip capacitor 0.01μF HD,S	17
C●102,201	178-1042-05	Ceramic chip capacitor 0.1μF HD,S	2
C○218,○219	178-1522-05	Ceramic chip capacitor 1500PF HD,S	2
C●218,●219	178-1822-05	Ceramic chip capacitor 1800PF HD,S	2
C406,407	178-2222-05	Ceramic chip capacitor 2200PF HD,S	2
C123,204 ●311	178-2232-05	Ceramic chip capacitor 0.022μF HD,S	3
C405	178-2712-05	Ceramic chip capacitor 270PF HD,S	1
C307,308	178-2732-05	Ceramic chip capacitor 0.027μF HD,S	2
C117,118,418 419	178-3322-05	Ceramic chip capacitor 3300PF HD,S	4
C124,128,223	178-3332-05	Ceramic chip capacitor 0.033μF HD,S	3

REF.NO.	PART NO.	DESCRIPTION	Q'TY
C203,211	178-4722-05	Ceramic chip capacitor 4700PF HD,S	2
C●315	178-4732-05	Ceramic chip capacitor 0.047μF HD,S	1
C122	178-6822-05	Ceramic chip capacitor 6800PF HD,S	1
C210	178-6832-05	Ceramic chip capacitor 0.068μF HD,S	1
C409,410,412 413	178-8232-05	Ceramic chip capacitor 0.082μF HD,S	4
C506,509,510	182-1073-33	Electrolytic capacitor 16V100μF SS	3
C430,439	182-2256-52	Electrolytic capacitor 35V2.2μF NP SS	2
C427,428	182-4756-32	Electrolytic capacitor 16V4.7μF NP SS	2
C303,304	183-1053-61	Electrolytic capacitor 50V1μF USS	2
C206,507	183-1063-31	Electrolytic capacitor 16V10μF USS	2
112,115,310 C●312,●322 408,411	183-1063-51	Electrolytic capacitor 35V10μF USS	7

REF.NO.	PART NO.	DESCRIPTION	Q'TY
C305,306	183-1073-12	Electrolytic capacitor 6.3V100μF USS	2
C●320,●321	183-1073-21	Electrolytic capacitor 10V100μF USS	2
C119,120,433 434	183-2263-31	Electrolytic capacitor 16V22μF USS	4
C220,221,422 508	183-4753-52	Electrolytic capacitor 35V4.7μF USS	4
114,214 ●318,●319 C401～403 414～417 423～426 ○462,○463	183-4753-61	Electrolytic capacitor 50V4.7μF USS	17
C125～127 501	183-4763-11	Electrolytic capacitor 6.3V47μF USS	4
C435,503,504	184-2273-22	Electrolytic capacitor 10V220μF S	3
C513	184-4773-31	Electrolytic capacitor 16V470μF S	1

● How to read resistor

Resistors are deleted from the table of electric components, (except special resistors).
They can be converted to product Nos. as follows.

Film resistor (Carbon film resistor/Metal film resistor)

□□□-□□□-□□

Classification	Resistance *	Tolerance of the value of resistance		Rated power			Shape	
111 (Carbon film resistor)		0	±2%	0			0	
	Example	1	±5%	1	1/8W	Approx. 3.7mm	1	Horizontal
	33Ω=330	2		2	1/4Ws	Approx. 6.5mm	2	Vertical
	33kΩ=333	3		3			3	
		4		4	1/2W	Approx. 9mm	4	
				7	1/6W	Approx. 3.5mm		
				8	1/2Ws	Approx. 6.6mm		
				9	1/4Wss	Approx. 3.2mm		
114 (Metal film resistor)		0		1	1W	Approx. 9.0mm	0	
		1	±5%	2	2W	Approx. 11.0mm	1	Horizontal
		2		3	3W	Approx. 15.0mm	2	

(Example)

Carbon film resistor 1kΩ ±5% 1/4Wss Vertical

1 1 1 - 1 0 2 1 - 9 2

Note 1. The first two of three digits representing resistance are effective digits and the last one represents number of "0" following this.
Unit is given in ohm (Ω).

Chip resistor

□□□-□□□-□ 0

Classification	Resistance *	Tolerance of the value of resistance		Rated power		
116	Example	0	for 0Ω resistor	0	for 0Ω resistor	
	33Ω=330	1	±5%	1	1/8W	1.6mm, 3.2mm
	33kΩ=333	2	±10%	2		
117		0	for 0Ω resistor	0	for 0Ω resistor	
		1	±5%	1	1/16W	1.25mm, 2.0mm
		2	±10%	2		
118		0		0		
		1	±5%	1	1/2W	3.2mm, 4.5mm
		2	±10%	2		
119		0	for 0Ω resistor	0	for 0Ω resistor	
		1	±5%	1	1/16W	0.8mm, 1.6mm
		2	±10%	2		

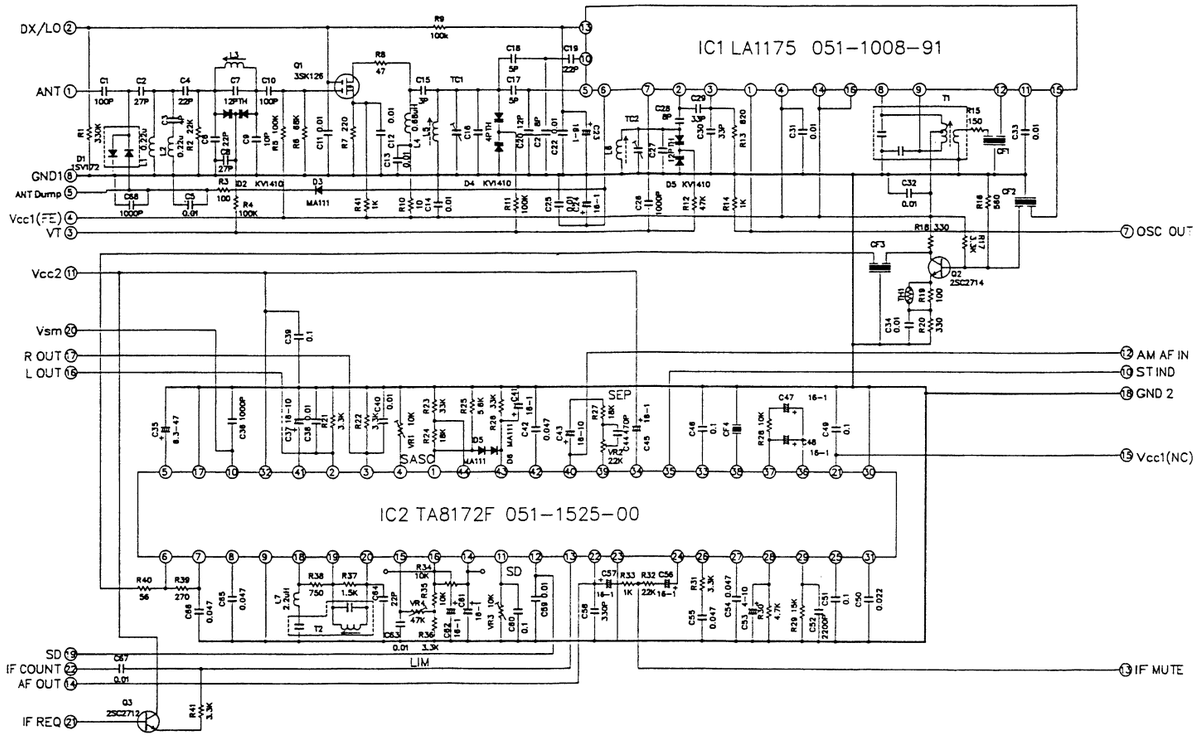
(Example)

Chip resistor (3.2mm×1.6mm) 1kΩ ±5% 1/8W

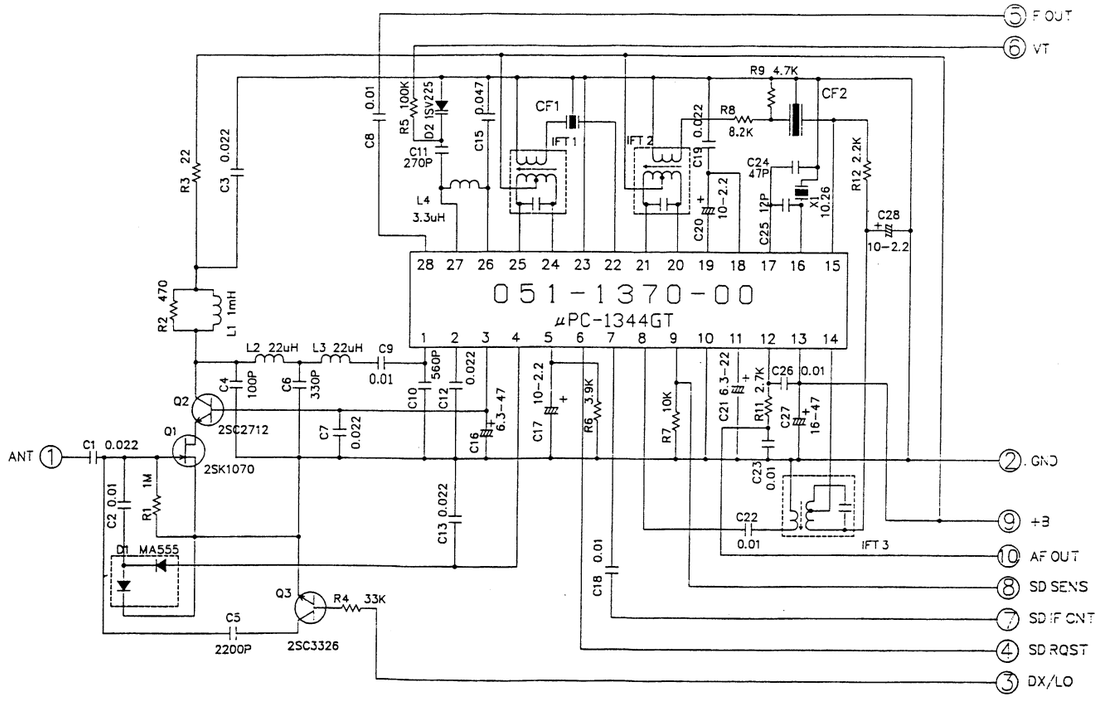
1 1 6 - 1 0 2 1 - 1 0

■BLOCK CIRCUIT DIAGRAM:

◎FM TUNER BLOCK 880-1775A

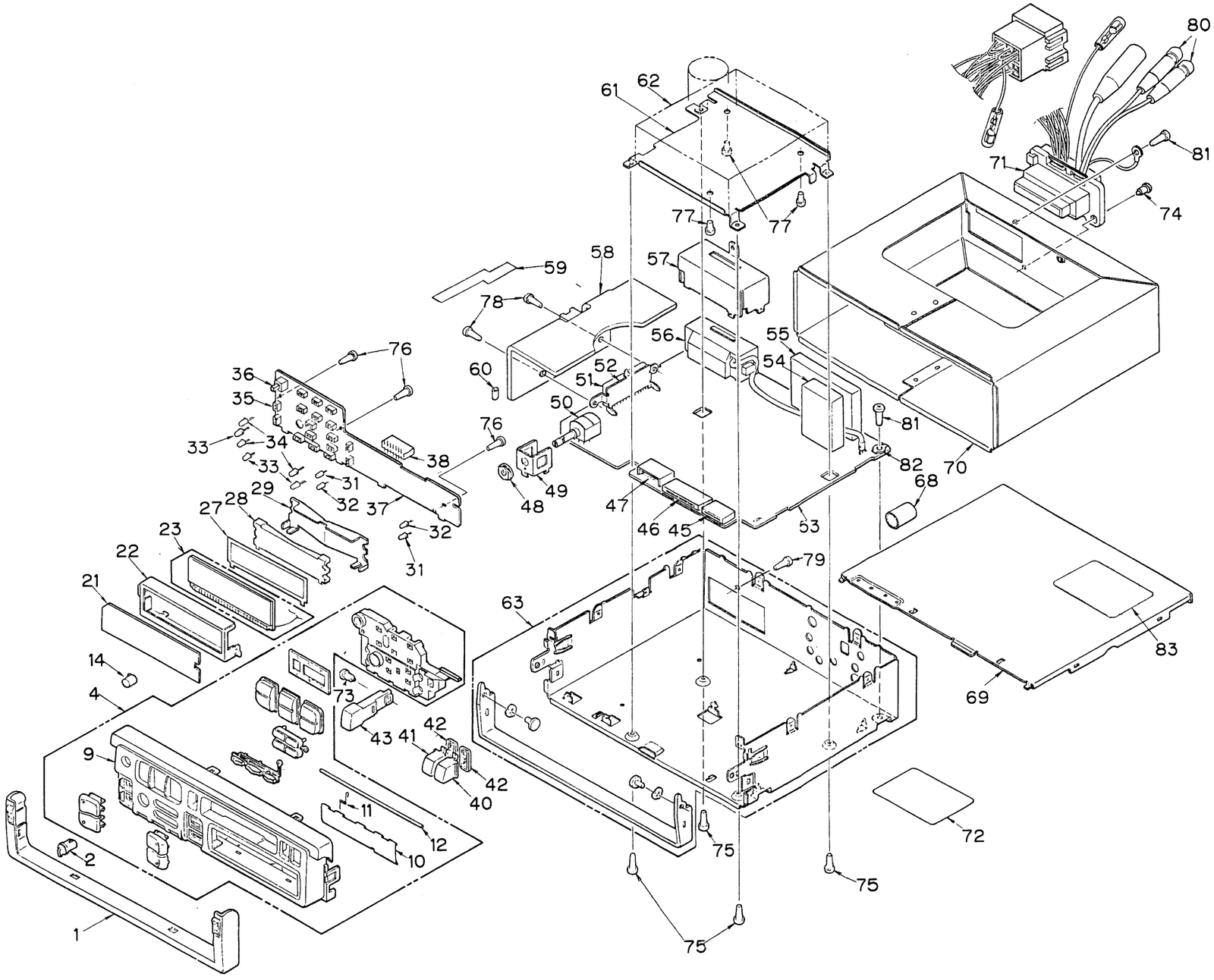


◎MW/LW TUNER BLOCK 880-1602A



■EXPLODED VIEW • PARTS LIST:

◎Main section



REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	335-4249-00	Handle cover	1
2	380-5257-00	Knob (FAD)	1
4	940-3233-00	Escutcheon ass'y (CRX75R)	1
	940-3248-00	Escutcheon ass'y (CRX63R)	
9	370-5368-00	Escutcheon	1

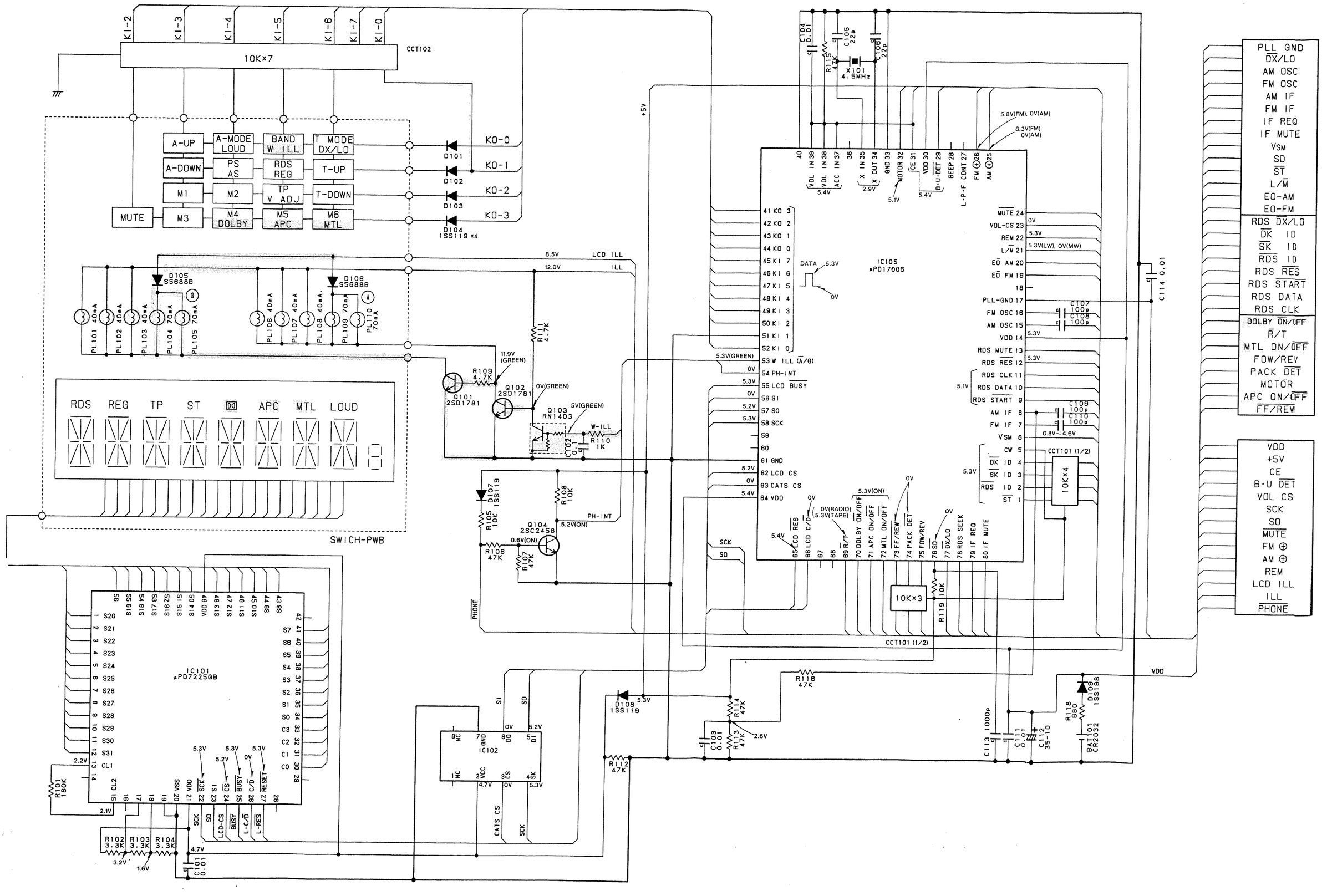
REF.NO.	PART NO.	DESCRIPTION	Q'TY
10	320-0435-98	Dustproof cover (CRX75R)	1
	320-0435-99	Dustproof cover (CRX63R)	
11	750-2530-03	Spring	1
12	341-1278-00	Door shaft	1
14	382-2971-00	Button (PWR)	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
21	373-0696-00	Dial cover (CRX75R)	1
	373-0696-01	Dial cover (CRX63R)	
22	330-9911-00	LCD cover	1
23	379-0043A	Heat seal ass'y	1
27	347-3687-00	Reflector	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
28	335-4243-00	Illumination plate (LCD)	1
29	335-4245-00	LCD holder	1
31	017-0415-01	Pilot lamp (G. 8V 70mA) (CRX75R)	2
32	017-0415-00	Pilot lamp (A. 8V 70mA)	2
33	017-0416-01	Pilot lamp (G. 14V 40mA) (CRX75R)	3
34	017-0416-00	Pilot lamp (A. 14V 40mA)	3
35	013-3741-11	Switch	17
36	013-3849-00	Switch	1
37	099-9828-00	P.W.B (SW.)	1
38	074-0980-16	Outlet socket (16P)	1
40	382-2969-01	Button (FF)	1
41	382-2970-01	Button (REW)	1
42	335-4242-01	Button spacer	2
43	382-2975-01	Button (EJECT)	1
45	074-0991-14	Outlet socket (14P)	1
46	074-0991-22	Outlet socket (22P)	1
47	076-0431-16	Plug (16P)	1
48	722-0368-00	Nut	1
49	330-9909-00	Volume holder	1
50	012-5124-00	Variable resistor (FAD)	1
51	051-0958-01	IC	1
52	330-8976-02	IC bracket	1
53	099-9827-00	P.WB (MAIN)	1
54	880-1602A	AM tuner	1
55	880-1775A	FM tuner	1
56	854-3006-00	Extension lead (22P. T/A)	1
57	330-9910-00	Connector holder	1
58	313-1440-03	Heat sink	1
59	347-3688-00	Insulator	1
60	822-0005-03	Tube	1
61	330-9908-00	Mechanism bracket	1
62	930-0702-85	Tape mechanism (TOM/RM) (CRX75R)	1
	930-0700-85	Tape mechanism (TOM/RM) (CRX63R)	
63	946-0042-00	Lower case ass'y	1
68	820-4025-08	Vinyl tube	1
69	310-1447-02	Upper cover	1
70	300-9460-01	Mounting bracket	1
71	854-3005-00	Extension lead (22P, T/A)	1
72	286-7831-00	Set plate (CRX75R)	1
	286-7832-00	Set plate (CRX63R)	
73	716-1580-00	Screw	1
74	716-1454-01	Connector screw	1
75	716-0878-00	Screw (M2.6x5 YEL)	4
76	716-0778-00	Wave screw (M2x6 YEL)	3
77	714-3004-80	Machine screw (M3x4 WHT)	3
78	714-2606-81	Machine screw (M2.6x6 YEL)	2
79	714-3005-81	Machine screw (M3x5 YEL)	1
80	345-3799-00	Rubber cap	2
81	716-0854-00	Screw (M3x6 WHT)	2
82	073-0689-00	Terminal	1
83	285-1410-00	Guide label	1

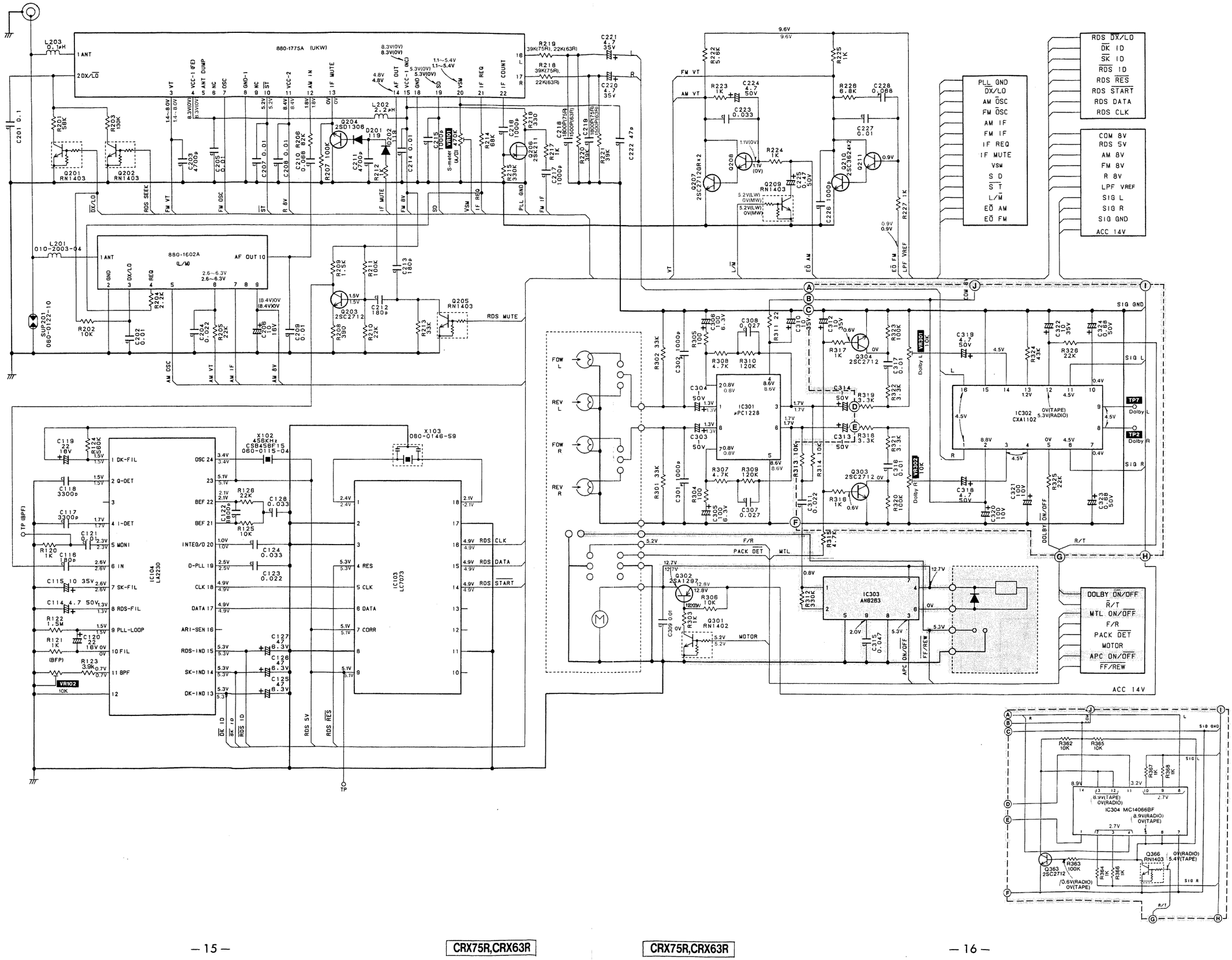
■CIRCUIT DIAGRAM: 1/3

: CRX75R



■CIRCUIT DIAGRAM: 2/3

: CRX75R : CRX63R



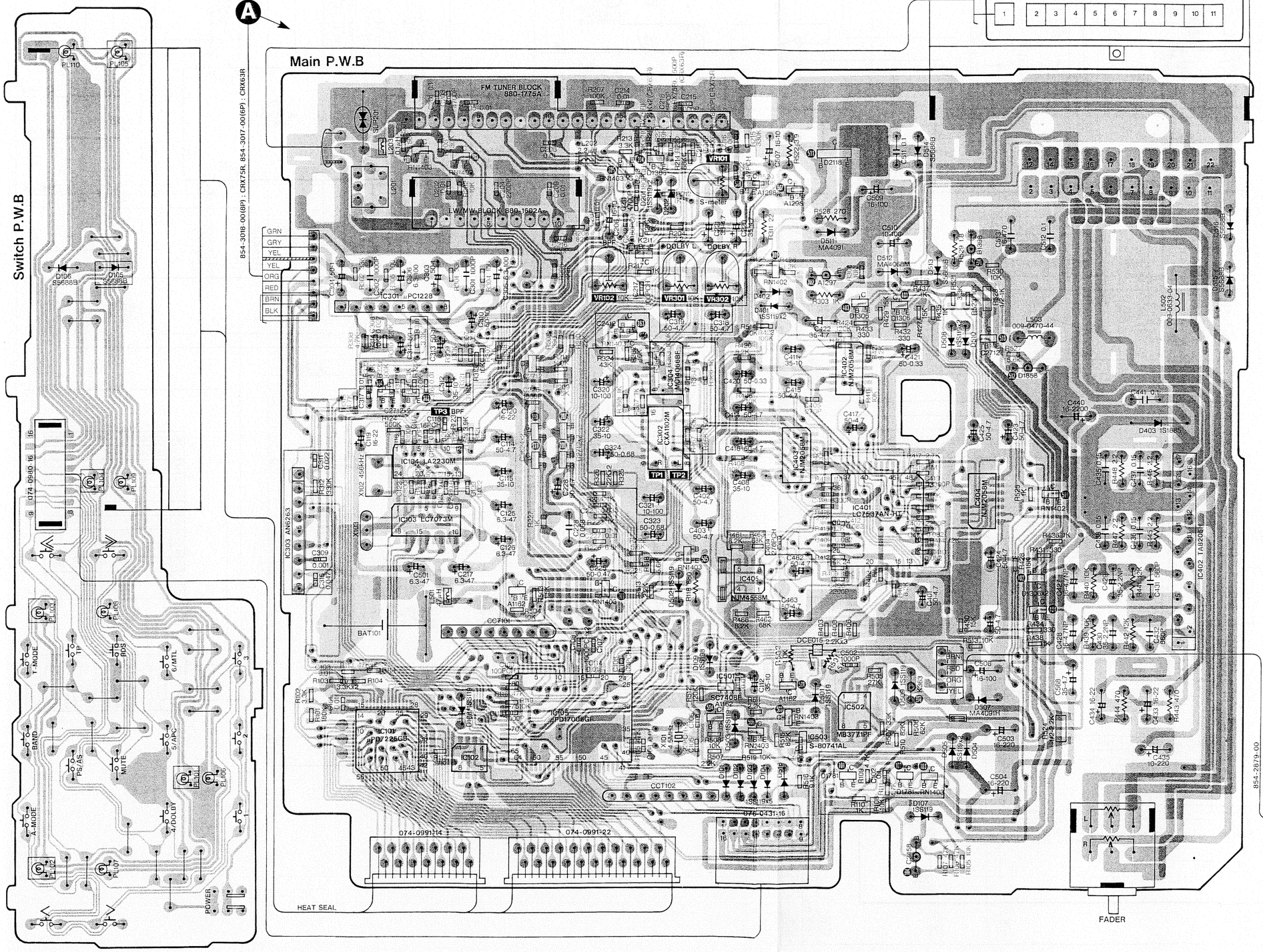
■CIRCUIT DIAGRAM: 3/3

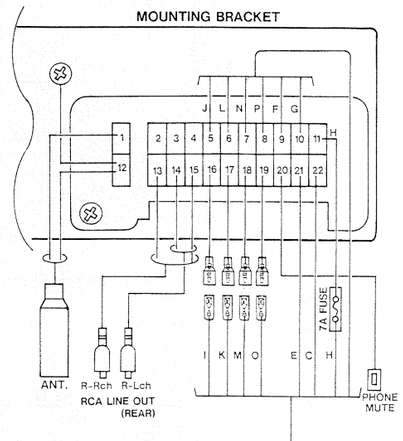
: CRX63R

NO	CONNECTIONS	NO	CONNECTIONS
1	ANT ⊕	12	ANT ⊖
2		13	RCA RR ⊕
3		14	RCA RL ⊕
4		15	RCA R ⊖
5	SP RR ⊕	16	SP RR ⊖
6	SP RF ⊕	17	SP RF ⊖
7	SP LF ⊕	18	SP LF ⊖
8	SP LR ⊕	19	SP LR ⊖
9	AUTO ANT	20	PHONE MUTE
10	GND	21	ILLUMI
11	ACC	22	BACK UP

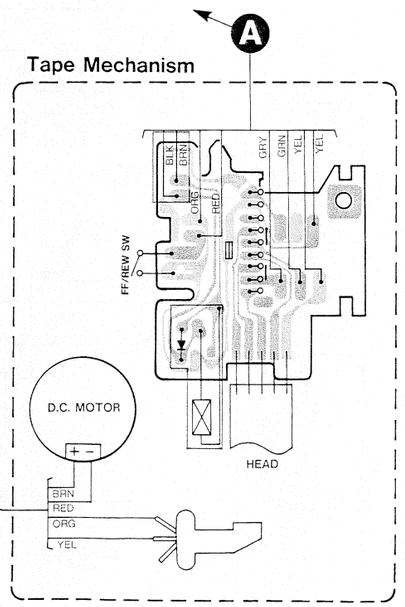
■PRINTED WIRING BOARD:

▭ : CRX75R ▭ : CRX63R





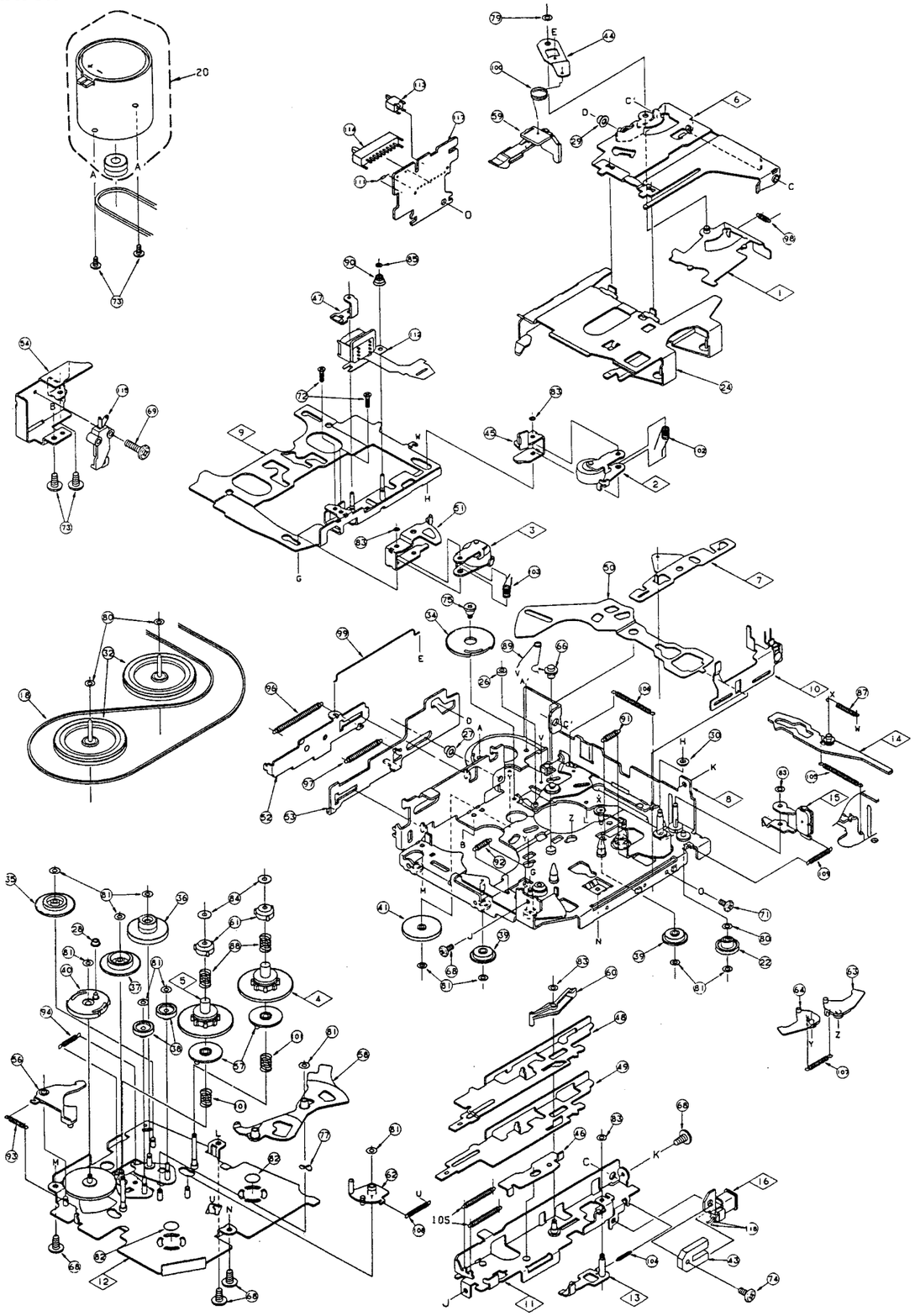
	CONNECTIONS	COLOR
A		
B		
C	BACK UP	YEL
D		
E	ILLUMI.	ORG/WHT
F	AUTO ANT.	BLU/WHT
G	GND	BLK
H	ACC	RED
I	Rear SP Rch −	PUR/BLK
J	Rear SP Rch +	PUR
K	Front SP Rch −	GRY/BLK
L	Front SP Rch +	GRY
M	Front SP Lch −	WHT/BLK
N	Front SP Lch +	WHT
O	Rear SP Lch −	GRN/BLK
P	Rear SP Lch +	GRN



■EXPLODED VIEW • PARTS LIST:

©Tape mechanism section 930-0702-85 (TOM-I-RM)

©CRX75R



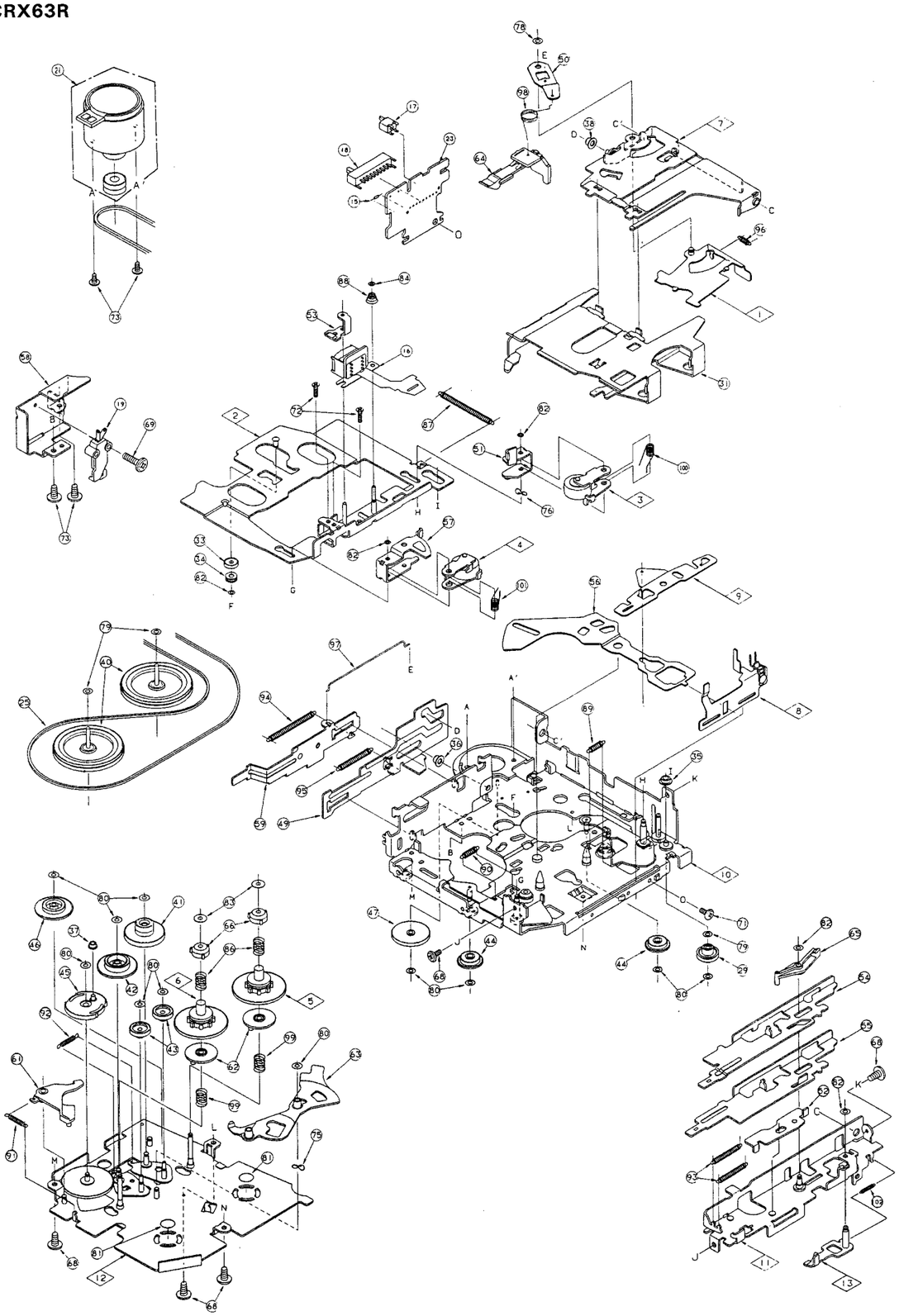
REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4141-03	Off arm ass'y	1
2	960-4146-02	Roller F-ass'y	1
3	960-4147-02	Roller R-ass'y	1
4	960-4154-04	Reel F-ass'y	1
5	960-4155-04	Reel R-ass'y	1
6	960-4194-02	Guide arm ass'y	1
7	960-4203-02	Change-L-ass'y	1
8	960-4309-01	Deck-P-ass'y-RM	1
9	960-4312-02	Head-P-ass'y	1
10	960-4313-03	HD-SW-P-ass'y	1
11	960-4314-02	Frame ass'y	1
12	960-4315-01	Bottom-P-ass'y	1
13	960-4316-01	Lock-A-ass'y	1
14	960-4317-01	Shift-P-ass'y	1
15	960-4318-00	Plunger-L-ass'y	1
16	960-3392-02	Coil ass'y	1
18	602-0113-01	Belt	1
20	SMA-135-100	Motor ass'y	1
22	604-0024-00	Pulley	1
24	606-0092-02	Pack guide	1
26	610-0293-01	Power roller	1
27	610-0326-00	Eject roller	1
28	610-0328-00	CH roller	1
29	610-0337-00	Guide-A-roller	1
30	610-0346-00	Head-G-roller	1
32	611-0087-01	Flywheel	2
34	613-0094-01	Power gear	1
35	613-0258-03	Gear B	1
36	613-0259-02	Gear F	1
37	613-0260-02	Gear R	1
38	613-0261-01	Idler gear	2
39	613-0262-01	FF/REW gear	2
40	613-0264-02	CH gear	1
41	613-0304-00	Gear A	1
43	630-1479-02	Core	1
44	630-2419-02	Swing arm	1
45	630-2422-04	Release link	1
46	630-2424-04	Select link	1
47	630-2427-01	Azimuth link	1
48	630-2430-04	FF lever-CR	1
49	630-2431-04	REW lever-CR	1
50	630-2432-02	Change plate	1
51	630-2436-04	REW link	1
52	630-2445-01	Eject lever-CR	1
53	630-2645-00	Eject plate RM	1
54	630-2648-01	Switch base RM	1
56	631-0653-01	Lock link	1
57	631-0656-03	Check plate	2
58	631-0657-02	Check link	1
59	631-0658-01	Pack stopper	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
60	631-0659-03	Mute link	1
61	631-1967-00	Slide bush	2
62	631-2013-01	Cancel link	1
63	631-2014-01	Brake-F	1
64	631-2015-00	Brake-R	1
66	632-1886-02	Lock pin	1
68	714-2003-81	Machine screw (M2x3)	5
69	714-2008-81	Machine screw (M2x8)	1
71	716-0891-01	P.W.B screw	1
72	716-1432-00	Screw (AZIMUTH)	2
73	716-0484-02	Motor screw	4
74	716-1560-00	Plunger screw	1
75	716-1578-00	Screw (POWER GEAR)	1
77	745-0586-03	Spring washer (CHECK LINK)	1
79	746-0622-01	Washer (OFF ARM)	1
80	746-0624-00	Washer (0.25)	3
81	746-0761-00	Washer	12
82	746-0767-00	Washer (FLYWHEEL)	2
83	746-0768-00	Washer (0.5 WARI)	5
84	746-0813-00	Poly-washer (REEL-ASS'Y)	2
85	746-0832-00	Washer (HEAD)	1
87	750-2537-02	Over-P-spring	1
88	750-2564-01	Slide spring	2
89	750-2568-00	Lock spring	1
90	750-2848-00	Azimuth spring	1
91	750-2849-01	FF P-spring	1
92	750-2850-01	REW-P-spring	1
93	750-2852-01	Lock-L-spring	1
94	750-2853-01	Idler-P-spring	1
96	750-2857-02	Eject-L-spring	1
97	750-2858-01	Eject-P-spring	1
98	750-2859-00	Off arm spring	1
99	750-2860-00	Lod spring	1
100	750-2861-01	Slot in spring	1
101	750-2919-02	Check spring-R	2
102	750-2920-01	Pinch spring-F	1
103	750-2921-01	Pinch spring-R	1
104	750-3010-01	Lock-A-spring	1
105	750-3011-00	Shift-P-spring	3
106	750-3012-00	Power-P-spring	1
107	750-3013-00	Brake spring	1
108	750-3014-00	Cancel spring	1
109	750-3015-01	Plunger spring	1
111	001-0330-00	Diode	1
112	011-0307-29	Head	1
113	013-3906-00	Switch (MUTE)	1
114	013-3922-00	Switch (SLIDE)	1
115	013-3924-00	Switch (MAIN)	1
117	099-9573-01	P.W.B	1
118	800-0607-60	Vinyl-coat-wire	2

■EXPLODED VIEW • PARTS LIST:

◎Tape mechanism section 930-0700-85 (TOM-Ⅰ-C)

◎**CRX63R**



REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4141-03	Off arm ass'y	1
2	960-4143-06	Head-P-ass'y	1
3	960-4146-02	Roller-F-ass'y	1
4	960-4147-02	Roller-R-ass'y	1
5	960-4154-04	Reel-F-ass'y	1
6	960-4155-04	Reel-R-ass'y	1
7	960-4194-02	Guide arm ass'y	1
8	960-4313-03	HD-SW-P-ass'y	1
9	960-4203-02	Change-L-ass'y	1
10	960-4309-12	Deck-P-ass'y-C	1
11	960-4314-02	Frame ass'y	1
12	960-4315-12	Bottom-P-ass'y-C	1
13	960-4316-01	Lock-A-ass'y	1
16	011-0307-29	Head	1
17	013-3906-00	Switch	1
18	013-3922-00	Switch	1
19	013-3924-00	Switch	1
21	SMA-135-100	Motor ass'y	1
23	099-9573-01	P.W.B	1
25	602-0113-01	Belt	1
29	604-0024-00	Pulley	1
31	606-0092-02	Pack guide	1
33	610-0034-00	Head-P-roller	1
34	610-0324-00	Head-G-roller A	1
35	610-0325-00	Head-G-roller B	1
36	610-0326-00	Eject roller	1
37	610-0328-00	CH roller	1
38	610-0337-00	Guide-A-roller	1
40	611-0087-03	Flywheel	2
41	613-0259-02	Gear F	1
42	613-0260-02	Gear R	1
43	613-0261-01	Idler gear	2
44	613-0262-01	FF/REW gear	2
45	613-0264-02	CH gear	1
46	613-0258-03	Gear B	1
47	613-0304-10	Gear A	1
49	630-2417-02	Eject plate	1
50	630-2419-02	Swing arm	1
51	630-2422-04	Release link	1
52	630-2424-04	Select link	1
53	630-2427-01	Azimuth link	1
54	630-2430-04	FF lever-CR	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
55	630-2431-04	REW lever-CR	1
56	630-2432-02	Change plate	1
57	630-2436-04	REW link	1
58	630-2440-01	Switch base	1
59	630-2445-01	Eject lever-CR	1
61	631-0653-01	Lock link	1
62	631-0656-03	Check plate	2
63	631-0657-02	Check link	1
64	631-0658-01	Pack stopper	1
65	631-0659-03	Mute link	1
66	631-1967-00	Slide bush	2
68	714-2003-81	Machine screw (M2x3)	5
69	714-2008-81	Machine screw (M2x8)	1
71	716-0891-01	P.W.B screw	1
72	716-1432-00	Screw (AZIMUTH)	2
73	716-0484-02	Screw	4
75	745-0586-03	Spring washer (CHECK L)	1
76	745-0748-00	Washer (RELEASE L)	1
78	746-0622-01	Washer (OFF ARM)	1
79	746-0624-00	Washer	3
80	746-0761-00	Washer	11
81	746-0767-00	Washer (FLYWHEEL)	2
82	746-0768-00	Washer	5
83	746-0813-00	Poly-washer	2
84	746-0832-00	Washer (AZIMUTH)	1
86	750-2564-01	Slide spring	2
87	750-2847-01	Head P-spring	1
88	750-2848-00	Azimuth spring	1
89	750-2849-01	FF P-spring	1
90	750-2850-01	REW P-spring	1
91	750-2852-01	Lock L-spring	1
92	750-2853-01	Idler P-spring	1
93	750-2854-01	FF/REW spring	2
94	750-2857-02	Eject L-spring	1
95	750-2858-01	Eject P-spring	1
96	750-2859-00	Off arm spring	1
97	750-2860-01	Lod spring	1
98	750-2861-01	Slot in spring	1
99	750-2919-02	Check spring-R	2
100	750-2920-01	Pinch spring-F	1
101	750-2921-01	Pinch spring-R	1
102	750-3010-01	Lock A-spring	1

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